

Third 2020 Landing Site Workshop
February 8-10, 2017

Day 1/February 8, 2017

8:30am Introduction

Michael Meyer and John Grant

Welcome, Opening Remarks, Logistics (15 min)

Matt T. Wallace and John B. McNamee

Project Status (15 min)

Al Chen

Landing Safety Assessment (15 min)

Jennifer Trosper, et al.

Surface Productivity Assessment (30 min)

Ken Farley, Ken Williford, and Hap McSween

Science Objectives, Site Evaluation Criteria, and Landing Site Working Group Assessment (60 min)

10:45am Overview Science and Biosignatures and Broad Approaches to Site Selection I

Robin Wordsworth

A Modeler's Perspective on Global Climate during the Noachian and Early Hesperian (20 min)

Dave Beaty and Lindsay Hays

Summary of Findings from Biosignature Preservation and Detection in Mars Analog Environments Workshop (20 min)

TC Onstott and Bethany Ehlmann

Signs of Rock-Hosted Life: Report of the Working Group (20 min)

Paul Mahaffy

Biosignatures from Gale Crater (20 min)

Martin J. Van Kranendonk, Tara Djokic, Kathleen A. Campbell, Malcolm R. Walter, David Deamer, Bruce Damer, Luke Stellar, Tsutomu, Eizo Nakamura, and Wendy Dang

Biosignature Preservation on Early Earth: A Pilbara Perspective on the Search for Fossil Life on Mars. (20 min)

12:25-2:00 Lunch

Overview Science and Biosignatures and Broad Approaches to Site Selection II

Joshua Williams

Evaluating the Proposed Mars 2020 Sedimentary Landing Sites for Ongoing Exhumation and Recent Exposure (15 min)

Matt Chojnacki

Sediment Flux Results for Aeolian Dunes at Candidate Landing Sites for the Mars 2020 Rover (15 min)

2:30pm Discussion of Final 8 Candidate Sites (2 sites)

2:30pm Nili Fossae Trough

Kevin Cannon, John Mustard, Livio Tornabene, Haley Sapers, Adrian Brown, Gordon Osinski, Bethany Ehlmann, and Stephen Parman

The Case for Nili Fossae: Geologic History, Habitability, and Diversity of Returned Samples (15 min)

Hadarou Sare

Implication of Fractures in Determining Potential Area of Life on Mars: Cartography of Mineralogy in Nili Fossae (15 min)

Livio L. Tornabene, Catheryn Ryan, Kevin Cannon, Jack Mustard, Gordon Osinski, Haley Sapers, Alexandra Pontefract, Arya Bina

The Hargraves Ejecta Blanket: Opportunities for sampling diverse target and impact-related materials in the NFT landing ellipse (20 mins)

Haley M. Sapers, A. Pontefract, G. R. Osinski, K. Cannon, L. L. Tornabene, and J. Mustard

Impact-Induced microbial habitats: implications for biosignature preservation in Nili Fossae (20 min)

Kevin Cannon

Summary of Key Points for Nili Fossae (5 min)

3:45pm

Jezero Crater

Tim Goudge

Exploring the Volcanic, Alteration, Climate, and Fluvio-Lacustrine Record of Early Mars at Jezero Crater (40 min)

Woody Fischer and Ralph Milliken

Deltas Provide a Multifaceted Record of Past Environmental Conditions (15 min)

Kjartan Kinch and Stephanie Shahrzad

The Age of the Dark-Toned Floor Unit in Jezero Crater (15 min)

4:55pm

Discussion

5:25pm

End of Day 1

Day 2/ February 9, 2017

8:30am

Discussion of Final 8 Candidate Sites (3 sites)

8:30am

Holden Crater

Ross Irwin and James Wray

Paleohydrology and resurfacing history in Holden crater (40 min)

Angelica Angles

Tibet, and Experimental Training Facility and Analogue for the Holden Crater Landing Site (15 min)

9:25am

Eberswalde Crater

Melissa Rice

Deltas, Lakes, Megabreccia, and Giant Veins: Interrogating Geologic Diversity for a NASA 2020 Mission to Eberswalde Crater (20 min)

Sanjeev Gupta

*Deltaic Evolution in the Large Closed Basin Eberswalde Crater Lake:
Sedimentary Archives of Lake Level History, Habitability, and Biosignature
Preservation (20 min)*

Nicholas Warner

*Chronostratigraphy, Provenance, and Geologic Context of the Eberswalde
System (20 min)*

10:25am NE Syrtis

John Mustard, Bethany Ehlmann, Michael Bramble, Kevin Cannon, Jim Head, J.
R. Skok, Tim Goudge, Elena Amandor

NE Syrtis: The Key to Unlocking the First 0.5 GY of Mars' History (40 min)

Bethany Ehlmann

*NE Syrtis: Diverse and Long-Lived Habitable Environments across the Noachian-
Hesperian Boundary (15 min)*

Mike Bramble, John Mustard, Bethany Ehlmann, and Mark Salvatore

*Stratigraphy and Mineralogy of NE Syrtis: Constraints on Formation Hypotheses
and the Evolution of the Region (15 min)*

J. R. Skok

*The Fluvial and Climatic History Recorded in the Northeast Syrtis Region of
Mars (15 min)*

11:50am Discussion

12:20-1:45 Lunch

1:45 pm Columbia Hills

1:45pm Raymond E. Arvidson

*Synergistic Analysis of Spirit and CRISM Data to Infer Mineralogy for Areas
Accessible to the 2020 Rover in the Columbia Hills and Surroundings, Gusev
Crater (15 min)*

Steve Ruff, Jack Farmer, Jim Rice, and Alex Longo

Seeking Signs of Past Microbial Life in the Columbia Hills (15 min)

Jim W. Rice Jr., Steve W. Ruff, and Alex Longo

New Destinations in the Columbia Hills and Extended Mission Science in Gusev Crater (15 min)

Kathleen A. Campbell, Diego M. Guido, Martin Van Kranendonk, Jack D. Farmer, and Frances Westall

Ubiquity, Diversity, and Preservation of Microbial Fabrics in Siliceous Hot Spring Deposits: Relevance to the Columbia Hills (15 min)

Bruce Damer

First and Last Outposts: The Origin and Preservation of Life in Terrestrial and Martian Hydrothermal Fields (15 min)

Hanna Nekvasil, Steve Ruff, Donald Lindsley, Vicky Hamilton, Nicholas DiFrancesco, and Francis McCubbin

Diverse Igneous Geology in and around the Columbia Hills for Diverse Science Investigations (10 min)

Alex Longo, Jim Rice, and Steve Ruff

The Legacy of Spirit: Mars 2020, the Columbia Hills and Public Engagement (10 min)

3:20pm

Mawrth Vallis

Francois Poulet

Overview and History of the Mawrth Vallis Region (15 min)

Janice Bishop

Detailed Description of Mineralogy and Stratigraphy (15 min)

Briony Horgan

Formation of the Clay Unit: Terrestrial Analogs and Link to Astrobiology (20 min)

Damien Loizeau

The Landing Ellipse for Mars 2020 and Targets for the Surface Mission (20 min)

4:30pm Southwest Melas Landing Site

Catherine Quantin-Nataf, Joel Davis, Peter M. Grindrod, Rebecca M. E. Williams, Catherine M. Weitz, Lauren Edgar and Gilles Dromart
Geological context of Southwest Melas Basin (20 min)

Joel Davis, Catherine Quantin-Nataf, Peter M. Grindrod, Rebecca M. E. Williams, Catherine M. Weitz, Lauren Edgar and Gilles Dromart
Selecting the Sweet Spot: Sampling Strategies at Southwest Melas Basin (30 min)

5:20pm Discussion

5:50 pm End Day 2

Day 3/February 10, 2015

8:30am Summary of Talks and Discussion of 8 Final Candidate Sites

10:00am Community Ranking of Final 8 Candidate Landing Sites